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A NEW OSTRACOD (ENTOCYTHERIDAE, NOTOCYTHERINAE) COMMENSAL ON NEW ZEALAND CRAYFISH[1]

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Examination of a crayfish collection from New Zealand in the U.S. National Museum (*Paranephrops planifrons* White collected by Charles Chilton from Pelorus Valley, South Island, USNM 18173) yielded 12 specimens of a new entocytherid ostracod.

Subsequently, in 1967, examination of crayfishes that we collected on North and South Islands of New Zealand failed to yield commensal ostracods. Instead, virtually every crayfish examined appeared to be so heavily infested with temnocephalid worms that we surmised the absence of ostracods to be correlated with competition between the two organisms. We did not, however, collect crayfishes from Pelorus Valley.

Laccocythere new genus

Diagnosis: A genus of the entocytherid subfamily Notocytherinae. Antennule with six podomeres. Dorsal antennal claw truncate and devoid of setae. Mandibular protopodite with distal row of five teeth. Peniferum terminating bluntly with two possibly opposable processes. Penis short, ventrally directed, and situated entirely above mid-length of peniferum. Commensal on freshwater crayfishes in New Zealand.

Type-species: *Laccocythere aotearoa* new species.

Etymology: From the Greek *lakkos* = pond + *cythere*.

Laccocythere aotearoa new species

Male: Shell (Fig. 1) subelliptical in outline with eyespot situated approximately ⅕ shell length from anterior end. Measurements of 7 specimens are given below in Table 1.

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Table 1. Length and height ranges and averages for specimens of *Laccocythere aotearoa*

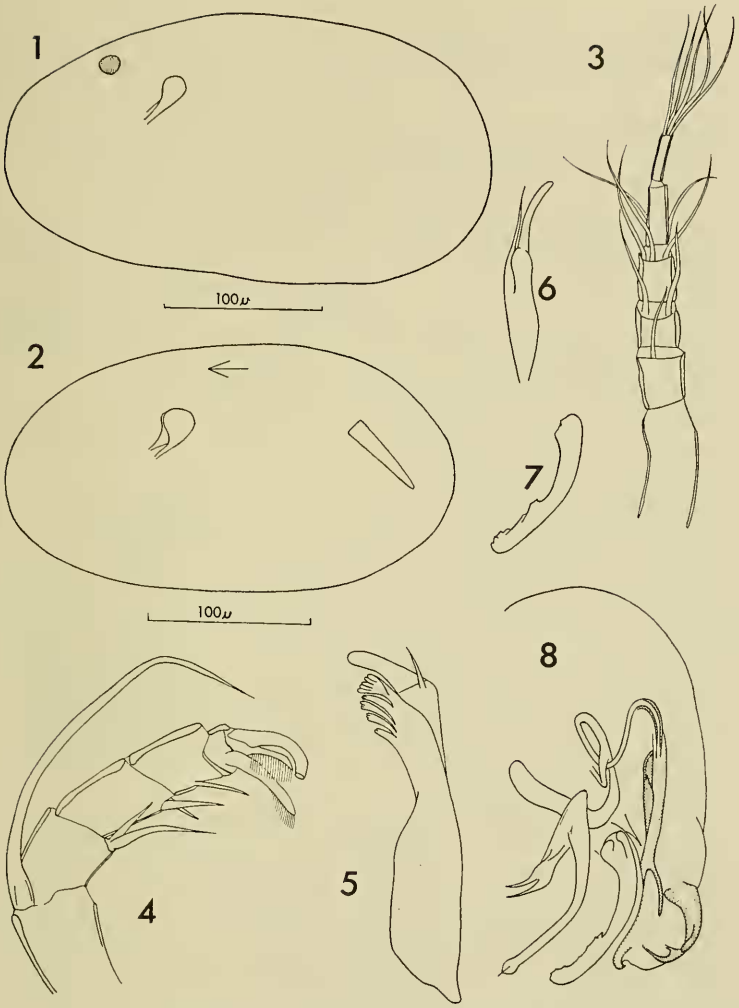
	Immature females (six legs-biunguis)	Adult females (triunguis)	Adult males
No. of specimens	4	1	7
Length (ranges)	240μ-300μ	320μ	280μ–310μ
averages	272μ	320μ	298μ
Height (ranges)	150μ–160μ	180μ	160μ–190μ
averages	157μ	180μ	170μ

Antennule (Fig. 3) composed of six podomeres. Second podomere from proximal end bearing single terminal seta extending to distal portion of antipenultimate podomere. Third podomere from proximal end bearing two terminal setae extending to mid-length of penultimate podomere. Antipenultimate podomere bearing five terminal setae extending approximately to level of distal end of ultimate podomere. Penultimate podomere devoid of setae. Ultimate podomere bearing five terminal setae subequal in length to combined penultimate and ultimate podomeres.

Antenna (Fig. 4) consisting of four podomeres.[2] Basal podomere devoid of setae, with tapering exopodite, or "flagellum," extending from its distal extensor margin for distance equal to that of remainder of antenna. Second, or antipenultimate podomere bearing two setae on distal flexor margin, one approximately ½ the length of other; longest seta extending past distal margin of third podomere. Third, or penultimate podomere bearing two setae on distal flexor margin, subequal in length and extending approximately to midlength of ultimate podomere. Fourth, or ultimate podomere, bearing single seta on flexor margin at approximately midlength of podomere. Distal portion of ultimate podomere bearing three claws. Dorsal claw truncate, curved 90° in distal half, and devoid of setae; mesial claw shorter, slightly curved distally, and bearing row of setae; ventral claw extending beyond dorsal and mesial claws, curved slightly and bearing row of setae along distal half, diminishing in size proximally.

Mandibular protopodite (Fig. 5) with distal row of five teeth. Proximal tooth with two cusps; second, third and fourth teeth with three cusps each, and large distal tooth with five cusps. Podomeres of mandibular palp not clearly defined. Single seta present adjacent to base of spatulate terminal spine of palp.

[2] As pointed out by Hart, Nair, and Hart (1967), it has been usually considered that entocytherid antennae consist of five podomeres—the ultimate one being reduced in size and situated distal to what we have considered to be the penultimate podomere. It seems likely to us that this "fifth podomere" is actually only a complex area in the distal portion of the fourth podomere where the terminal claws have their origins, and it is so considered in this description.



FIGS. 1–8. Outline of shell of adult male in lateral aspect, showing antennal glands and eyespot; 2, Outline of shell of adult female, showing female genital apparatus and antennal glands. Arrow indicates anterior end; 3, Antennule; 4, Antenna; 5, Mandible; 6, Maxilla; 7, Clasping apparatus of paratype; 8, Copulatory apparatus.

Copulatory complex (Fig. 8) with ventral portion of peniferum blunt and terminating in two sclerotized tapering processes, which may or may not be apposable. Penis short, curved, ventrally directed, and situated above midlength of peniferum. Penis apparently introduced into well-defined duct leading antero-ventrally to anterior face of peniferum. Clasping apparatus (Fig. 8) falcate, bearing no teeth on external surface, four terminal denticles, and four irregular teeth on internal surface.

Variations: On some specimens terminal denticles may be more or less indistinguishable from teeth on the internal margin. The paratypic specimen shown in Figure 7 has four teeth that might be considered terminal denticles and two or possibly three that might be considered teeth on the internal margin. The most proximal of these teeth might be described as a large truncated tooth or as two distinct teeth—depending upon the whim or point of view of the describer.

Type-locality, distribution, and host: New Zealand—South Island—Pelorus Valley. Host, *Paranephrops planifrons* White. This ostracod is known only from the type-locality.

Disposition of types: Male holotype, female allotype, and a paratypic series are deposited in the Smithsonian Institution. Paratypes are deposited in the Academy of Natural Sciences of Philadelphia.

Female: Shell of triunguis female similar to that of adult male in shape, but averaging 22μ more in length. Conspicuous slender conical apparatus described in females of a new species from New Guinea (Hart and Hart, 1970). This apparatus is probably homologous with the *amiculum* of the genus *Dactylocythere* in North America (Hart, 1962).

The difference between average instar lengths of six-legged immature (biunguis) females and an adult (triunguis) female of 48μ (Table 1) appears similar to the difference of 44μ noted by Hart, Nair and Hart (1967) for *Microsyssitria indica.*

Relationships: This ostracod appears to have close affinities with the entocytherid subfamily Notocytherinae of Australia and New Guinea (Hart and Hart, 1967; Hart and Hart, 1970) as well as with the Indian subfamily Microsyssitrinae (Hart, Nair, and Hart, 1967). It is similar to the Australian and New Guinea species in having six antennular podomeres (as opposed to five in the Indian), but similar also to the Indian and New Guinea forms in having five mandibular palp teeth (as opposed to six in the Australian). We feel, however, that it should be placed in the subfamily Notocytherinae.

Although the distal portion of the peniferum is apparently bifid, we doubt that the two projections are apposable as they are in *Microsyssitria indica* and as they may be in *Chelocythere kalganensis* (Hart and Hart, 1967).

Etymology: From the Maori *aotearoa*, "the long white cloud." With reference to the descriptive Maori name for the South Island of New Zealand.

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